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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/918,239

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Kevin C. Bynum

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12/13/2004

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EXAMINER

HANNAHER, CONSTANTINE

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/918,239	Applicant(s) BYNUM ET AL.	
	Examiner Constantine Hannaher	Art Unit 2878	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-92 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-14, 54-84, 86-89 and 91 is/are allowed.
- 6) ☒ Claim(s) 15, 16, 23-30, 32, 34, 36, 41, 52, 85, 90 and 92 is/are rejected.
- 7) ☒ Claim(s) 17-22, 31, 33, 35, 37-40, 42-51 and 53 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20011211</u> . | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION****Information Disclosure Statement**

1. As set forth in MPEP § 609:

37 CFR 1.98(b) requires that each item of information in an IDS be identified properly. U.S. patents must be identified by the inventor, patent number, and issue date. U.S. patent application publications must be identified by the applicant, patent application publication number, and publication date. U.S. applications must be identified by the inventor, the eight digit application number (the two digit series code and the six digit serial number), and the filing date. If a U.S. application being listed in an IDS has been issued as a patent, the applicant should list the patent in the IDS instead of the application. Each foreign patent or published foreign patent application must be identified by the country or patent office which issued the patent or published the application, an appropriate document number, and the publication date indicated on the patent or published application. Each publication must be identified by publisher, author (if any), title, relevant pages of the publication, date and place of publication. The date of publication supplied must include at least the month and year of publication, except that the year of publication (without the month) will be accepted if the applicant points out in the information disclosure statement that the year of publication is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the particular month of publication is not in issue. The place of publication refers to the name of the journal, magazine, or other publication in which the information being submitted was published.

See MPEP § 707.05(e) for how to list downloaded information.

**Claim Objections**

2. Claim 54 is objected to because of the following informalities: the presence of the periods in a claim, except as associated with abbreviations, is not acceptable. Appropriate correction is required.

**Claim Rejections - 35 USC § 112**

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 16, 26-29, 41, 85, 90, and 92 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 16 recites the limitation "the control computer" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 23 establishes a control computer, not claim 15.

Claim 26 recites the limitation "the focusing lens" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 25 establishes the focusing lens, not claim 23.

Claim 41 contains the trademark/trade name MATLAB. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe a programming language and, accordingly, the identification/description is indefinite.

Claim 85 recites the limitation "the near infrared source" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claims 57 and 54 establish a radiation source and a radiation beam having a predetermined wavelength but without specifying a range for the wavelength.

Claim 90 contains the trademark/trade name MATLAB. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does

not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe a programming language and, accordingly, the identification/description is indefinite.

Claim 92 recites the limitation "the microsphere" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 91 establishes a microsphere, not claim 54.

The balance of the claims is rejected on the basis of their dependence.

### **Claim Rejections - 35 USC § 102**

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 15, 16, 23-28, 30, 32, 34, 36, and 52 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Nelson *et al.* (US006345194B1).

With respect to independent claim 15, Nelson *et al.* discloses a three-dimensional (column 6, line 2) spectral (column 2, lines 16-20) imaging system (column 1, line 15, *e.g.*, Fig. 5) comprising a source 20 of collimated radiation (column 1, lines 54 and 66) disposed at a proximal side of an object and having a predetermined (column 1, lines 55-56) wavelength in the claimed range (column

1, line 67, and column 2, line 2), a scanning angle changer (in view of the arrows in Figs. 5 and 6 and the rotation direction of Figs. 9a, 9b, and 10), a radiation detector 22 disposed at a distal side of the object, and a processor (column 3, lines 22-23) coupled to the detector and receiving information from the detector (column 3, lines 20-23) and generating a three-dimensional (column 6, line 2) spectral (column 2, lines 16-20) image of the object.

With respect to dependent claim 16, the imaging system of Nelson *et al.* further comprises an image display device (column 3, line 22) for display of the three-dimensional (column 6, line 2) image (column 11, lines 19-25) by the processor.

With respect to independent claim 23, Nelson *et al.* discloses a three-dimensional (column 6, line 2) spectral (column 2, lines 16-20) imaging system (column 1, line 15, *e.g.*, Fig. 7) comprising a radiation source 42 (column 1, lines 54 and 66) disposed at a proximal side of an object 44 and passing a radiation beam with a predetermined (column 1, lines 55-56) wavelength, a beam collimator (column 2, lines 39-44) disposed between the radiation source 42 and the object, a scanning angle changer (in view of the arrows in Figs. 5 and 6 and the rotation direction of Figs. 9a, 9b, and 10), a radiation detector 48 disposed at a distal side of the object 44 for detecting a plurality of two-dimensional (column 4, line 13) spectral images of the object 44, and a control computer (column 3, lines 22-23) of the type recited (column 3, lines 20-23) and capable of determining a three-dimensional (column 6, line 2) image of the object 44 using the plurality of two-dimensional spectral images.

With respect to dependent claim 24, the imaging system of Nelson *et al.* further comprises an image display device (column 3, line 22) for display of the three-dimensional (column 6, line 2) image (column 11, lines 19-25) by the control computer.

With respect to dependent claim 25, the beam collimator in the imaging system of Nelson *et al.* includes a focusing lens (column 2, line 41).

With respect to dependent claim 26, as best understood, the imaging system of Nelson *et al.* further comprises a first set of optical elements between the source **42** and the object **44** (column 10, lines 45-57).

With respect to dependent claim 27, the imaging system of Nelson *et al.* further comprises a second set of optical elements between the object **44** and the radiation detector **48** (column 8, lines 57-62).

With respect to dependent claim 28, the two sets of optical elements each include a polarizer (column 10, lines 51 and 55, and column 8, line 60).

With respect to dependent claim 30, the control computer in the imaging system of Nelson *et al.* includes a data storage device (column 3, line 22).

With respect to dependent claim 32, the radiation beam in the imaging system of Nelson *et al.* is a near-infrared radiation beam (column 2, line 2).

With respect to dependent claim 34, the radiation source **42** in the imaging system of Nelson *et al.* includes a wavelength filter (column 10, line 49) of the type recited.

With respect to dependent claim 36, the scanning angle changer in the imaging system of Nelson *et al.* is capable of changing a position of the radiation source **42** relative to the object **44**.

With respect to dependent claim 52, the object **44** in the imaging system of Nelson *et al.* includes a biological tissue.

#### **Response to Submission(s)**

7. This application has been published as US2004/0211903A1 on October 28, 2004.

### **Allowable Subject Matter**

8. Claims 1-14, 54, 55, 63, 64, 83, 65-68, 82, 56, 57, 84, 86, 58-62, 69-81, 87-89, and 91 are allowed.
9. Claims 17-22, 31, 33, 35, 37-40, 42-51, and 53 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
10. Claims 29, and 41 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
11. Claims 85, 90, and 92 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
12. The following is a statement of reasons for the indication of allowable subject matter: the three-dimensional spectral imaging based upon, or of, PCA, or with a monochromator, quarter-wave plate, mid-IR, rotating stage, or multiple sources or particular detector types or specific software or coordinated changes in wavelength and angle, or directed towards specific objects, in a system and method as specifically recited, is not suggested.

### **Conclusion**

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Constantine Hannaher whose telephone number is (571) 272-2437. The examiner can normally be reached on Monday-Friday with flexible hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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**Constantine Hannaher**  
Primary Examiner